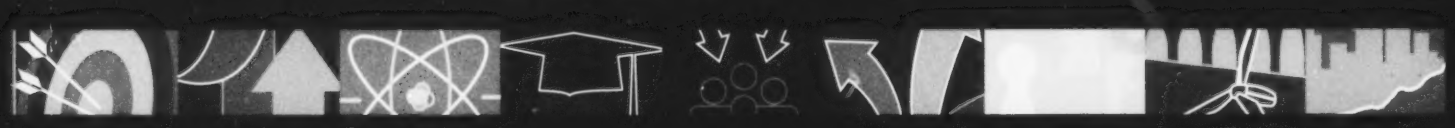
Québec

Aeronautical Industry

Development Strategy



SHINE AMONG THE BEST

Québec

Québec

Aeronautical Industry

Development Strategy

THE QUÉBEC ADVANTAGE

July 2006

Québec

Published by the Direction générale des communications et des services à la clientèle
Ministère du Développement économique, de l'Innovation et de l'Exportation

www.mdeie.gouv.qc.ca/aerospace

info@mdeie.gouv.qc.ca

Legal deposit – Bibliothèque et Archives nationales du Québec, 2006

ISBN-10: 2-550-47553-4 (printed version)
ISBN-13: 978-2-550-47553-8 (printed version)

ISBN-10: 2-550-47554-2 (PDF)
ISBN-13: 978-2-550-47554-5 (PDF)

1897-A

Table of contents

Message from the Premier	5
Message from the Minister	7
The Québec aeronautical industry	9
Global framework	23
Challenges to be met	27
The strategy	29
The strategy in a nutshell	35
Conclusion	37

Message from the Premier

Let Québec take flight

We must create wealth in order to better support our children, the elderly and the most vulnerable members of our society. If future generations are to enjoy a better quality of life in a healthier environment, we must immediately adopt the means to ensure that they can do so. It is in this perspective that our government sought to revitalize the Québec economy by launching several months ago *The Québec Advantage*, a bold economic development strategy.

The Québec advantage is readily apparent in the aeronautical sector, in which Québec is a world leader. Our industry combines innovation, research, development, leading-edge training, and a concern for the environment. It is entirely emblematic of what we must do in order to prosper today in the knowledge-based economy.

This initial Québec aeronautical industry strategy is a key component of the realization of our vision of the Québec of tomorrow. Like the *Sustainable Development Act*, the Generations Fund, the energy strategy or the action plan on climate change, the aeronautical strategy is helping to enhance Quebecers' living conditions in keeping with the principles of sustainable development.

I am convinced that Quebecers' know-how, audacity and well-known inventiveness are the best way for us to distinguish ourselves the world over and to ensure our prosperity, as our success in sectors such as aeronautics vividly attests. It is by relying on such strengths that we can excel and ensure that Québec as a whole takes flight and shines among the best.

Jean Charest
Premier of Québec

Message from the Minister

We can be rightly proud of Québec's expertise and know-how in the aeronautical sector. The reputation for excellence enjoyed by its prime contractors, equipment manufacturers, suppliers and subcontractors is helping to make Québec a key player in the worldwide aeronautical industry.

The *Québec Aeronautical Industry Development Strategy* specifies the role the government intends to play in the coming years in the development of the aeronautical industry. It is directly in keeping with the Québec economic development strategy set forth in *The Québec Advantage*.

This strategy relies on the mobilization of stakeholders in the aerospace industrial cluster. It depends on Québec's numerous competitive advantages in the aeronautical sector, including skilled workers, research and development, the expertise of prime contractors, equipment manufacturers and a network of some 220 SMEs, and the quality of its educational institutions.

By focusing on these strengths and by adopting the means to do more we will enable the Québec aeronautical industry to pursue its growth.

I encourage all stakeholders in the sector to collaborate with our government to ensure that the aeronautical industry continues to contribute to Québec's economic prosperity.

Raymond Bachand
Minister of Economic Development,
Innovation and Export Trade

The Québec aeronautical industry

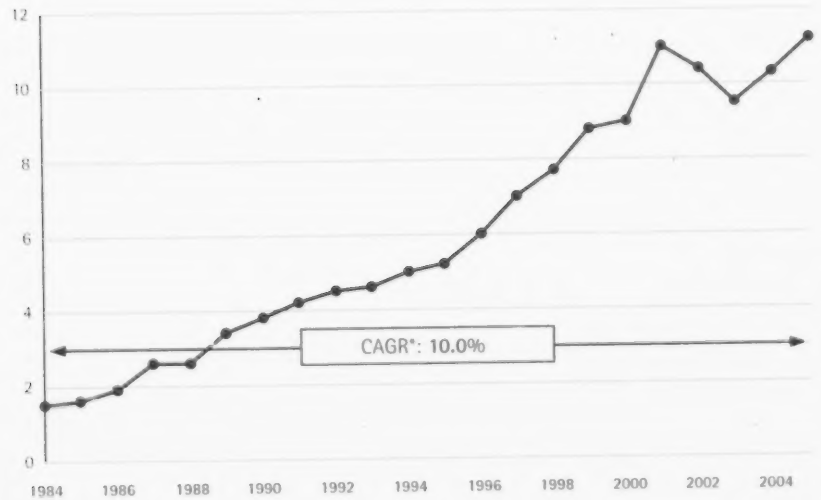
A driving force in the Québec economy

In 2005, the Québec aeronautical industry employed nearly 40 000 workers and recorded sales of $11.1 billion. It is contributing significantly to the economy and helping to broaden Québec's influence abroad.

The industry is a key component of Québec's manufacturing sector. Indeed, it accounts for over 7% of sales in the sector, thus ranking the aeronautical industry fourth in the Québec manufacturing sector.

Over the past 20 years, industry sales have grown at an average annual rate of 10%.

Québec aerospace industry sales
(in billions of dollars: 1984-2005)



*Compound annual growth rate
Source: MDEIE.

Definition of the industry

The aeronautical industry encompasses the development, manufacturing and maintenance of aircraft, engines and aircraft material and parts. It includes allied products, and aircraft simulation, navigation, guidance, control, communication, surveillance and defence equipment and systems.

The aeronautical sector accounts in Québec for 99% of the aerospace sector, which comprises the aeronautical and space sectors. The term aerospace is used in the strategy when the available data include the space sector.

An industry that creates quality jobs

Québec is renowned for its qualified, versatile, stable work force, which contributes directly to its aeronautical industry's excellence worldwide and is a key attraction for potential investors. Moreover, the Québec aeronautical industry can rely on the talent of nearly 10 000 engineers and scientists.

If Québec can rely on such qualified workers, it is because of the excellence of its specialized educational institutions, which offer quality technical, college and university training.

Between 1984 and 2005, 23 400 jobs were created in Québec in the aerospace sector, equivalent to an average annual growth rate of 4.4%. Today, Québec has one aerospace job per 200 inhabitants, one of the highest concentration rates in the world. In the Greater Montréal area, one person in 95 works in this sector.

The wages of employees in the Québec aerospace industry are 30% higher than the average in the Canadian manufacturing sector.

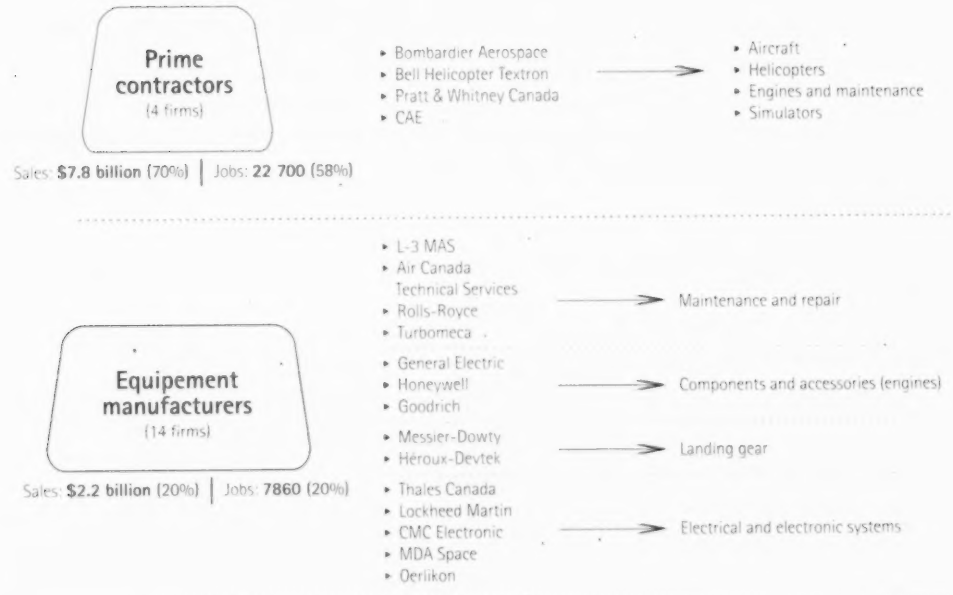
A structured industry that offers a broad range of specialties

Another of the sector's strengths is the presence in Québec of over a dozen world-class prime contractors and equipment manufacturers. These firms can rely on some 220 subcontractors and suppliers of specialized products and services.

The prime contractors and equipment manufacturers alone generate 90% of sales and account for nearly 80% of jobs in the Québec aeronautical industry. The prime contractors are engaged primarily in the manufacture of commercial regional and business aircraft, helicopters, engines and flight simulators. Equipment manufacturers specialize mainly in avionics, simulation equipment, landing gear and maintenance and repair operations.

In 2005, subcontractors and suppliers of specialized products and services employed 8640 workers and generated $1.1 billion in sales.

Structure of the Québec aerospace industry in 2005


Prime contractors
(4 firms)
Sales: $7.8 billion (70%) | Jobs: 22 700 (58%)
Bombardier Aerospace
Bell Helicopter Textron
Pratt & Whitney Canada
CAE
Aircraft
Helicopters
Engines and maintenance
Simulators
Equipement manufacturers
(14 firms)
Sales: $2.2 billion (20%) | Jobs: 7860 (20%)
L-3 MAS
Air Canada Technical Services
Rolls-Royce
Turbomeca
Maintenance and repair
General Electric
Honeywell
Goodrich
Components and accessories (engines)
Messier-Dowty
Héroux-Devtek
Landing gear
Thales Canada
Lockheed Martin
CMC Electronic
MDA Space
Oerlikon
Electrical and electronic systems
Suppliers of specialized products and services
(127 firms)
Sales: $760 million (7%) | Jobs: 5210 (13%)
Electrical and electronic systems, information and software, maintenance and repairs, design, calculation and certification, casting, containers, equipment and tools, engine components and accessories, fasteners, numerically-controlled milling machines, ground equipment, hydraulic and pneumatic equipment, passenger cabin interiors, satellite equipment, scale models and mock-ups, test benches, and water-jet cutting equipment
Subcontractors
(93 firms)
Sales: $340 million (3%) | Jobs: 3430 (9%)
Machining, sheet metal and welding, testing and control, plastics processing, fast prototyping and sub-assemblies, surface treatment, heat treatment, plasma and ion-nitriding coating, laser and ultrasonic inspection systems, and shot peening

Total sales: **$11.1 billion** | Total work force: **39 200**

Source: MDEIE.

A dynamic research environment

Research and development (R&D) spending in Québec stood at 2.7% of GDP in 2002, which is especially high by international standards.

Québec is the linchpin of Canadian aerospace R&D, of which nearly 70% is conducted in the province. In 2004, $760 million was invested in aerospace R&D in Québec.

The importance of research stems from the presence in Québec of the research departments of major prime contractors and extensive support from the Québec government. Mention should be made of:

- liaison and transfer centres;
- college technology transfer centres, including the Centre technologique en aérospatiale (CTA);
- the Consortium de recherché et d'innovation en aérospatiale au Québec (CRIAQ).

More specifically, CRIAQ coordinates collaboration between universities and the industry in the realm of precompetitive R&D. This consortium also publicizes in Québec universities the technological challenges facing the industry and concludes agreements with national and international organizations. Since its inception in 2002, CRIAQ has managed 31 research projects in which over 200 researchers and specialists have participated.

Québec government financing

Ministère du Développement économique, de l'Innovation et de l'Exportation (MDEIE)
Fonds québécois de la recherche sur la nature et les technologies (FQRNT)

20 enterprises (14 SMEs)

- Bell Helicopter Textron
- Bombardier Aerospace
- Pratt & Whitney Canada
- CAE
- Thales Canada
- CMC Electronic
- Delastek
- Engenuity Technologies
- Sinters Canada
- Assystem
- Artec Technologies
- Dema Aeronautics
- DAC
- Maetta Sciences
- Mecachrome Technologies
- ScyForm
- SCDS PRO
- MicroStep
- THS
- Sonaca NMF Canada

CRIAQ

Consortium de recherche et d'innovation en aérospatiale au Québec

- Over 200 researchers and specialists
- Nearly 150 students

31 research projects

One research centre and nine universities

- École de technologie supérieure Université du Québec
- École Polytechnique Université de Montréal
- Université Laval
- Concordia University
- National Research Council of Canada
- Université du Québec à Rimouski
- Université du Québec à Chicoutimi
- Université du Québec à Trois-Rivières
- Université de Sherbrooke
- McGill University

CRIAQ's mission:

1. University-industry collaboration on pre-competitive R&D
2. Promotion in Québec universities of technological challenges
3. Agreements with national and international organizations

Exporting is vital in the aeronautical industry

The Québec aeronautical industry exports over 80% of its output, which makes it Québec's leading manufacturing exporter.

Québec manufacturing exports, by industry
(2005)

1. Aeronautics | 12.5%
2. Aluminum | 8.6%
3. Pulp and paper | 7.4%
4. Semi-conductors and electronic components | 3.7%
5. Other | 67.8%

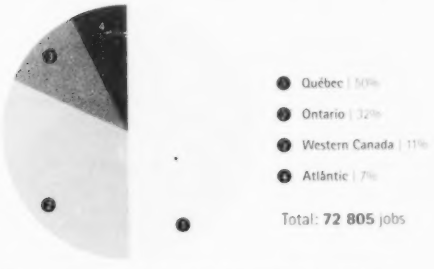
Total : **$71.1** billion

Source : ISQ.

The Québec aeronautical industry's strength in Canada

Québec is Canada's principal aerospace centre. It accounts for 50% of jobs and 62% of sales in the Canadian aerospace industry overall.

Aerospace jobs in Canada
(2004)



Industry sales in Canada
(2004)

Source: Aerospace Industries Association of Canada.

Moreover, the Greater Montréal area ranks with Seattle and Toulouse among the world's top three aeronautical centres.

While the Québec aeronautical industry is heavily concentrated on the Island of Montréal, the industry is contributing to economic vitality and the creation of long-term jobs in other regions of the province, mainly in the Montérégie, Laurentides and Laval regions, but also in the Estrie and Mauricie regions.

It should be noted that the headquarters of two international aviation agencies, the International Civil Aviation Organziation (ICAO) and the International Air Transport Association (IATA), are located in Montréal. Moreover, Montréal is the home of the North American centre of Airline Telecommunication and Information Services (SITA), the Canadian Space Agency (CSA), the International Business Aviation Council (IBAC), the International Council for Aerospace Training (CIFA), and the IATA Aviation Training and Development Institute (ATDI).

Work force by administrative region
(2005)

Total: **39 200** jobs

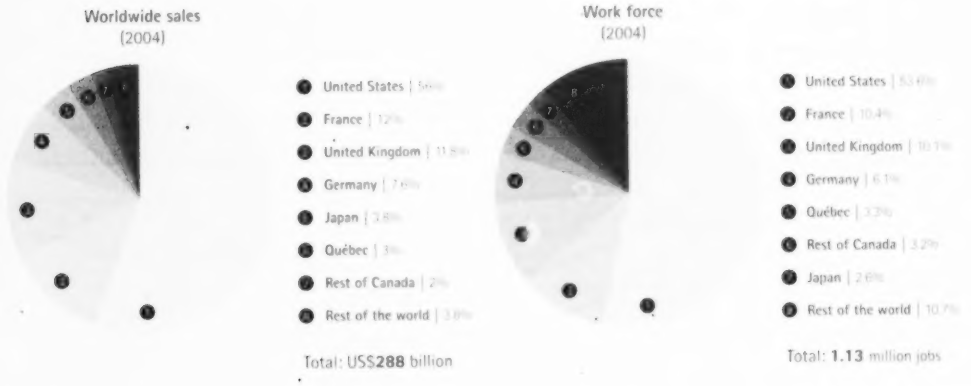
Sales by administrative region
(2005)

Total: **$11.1** billion

Source: MDEIE.

The Québec aeronautical industry's strength in the world

The Québec aerospace industry occupies an enviable position at the international level. Indeed, firms operating in Québec generate 3% of sales and account for 3% of the work force worldwide in the aerospace industry, which ranks Québec sixth and fifth from the standpoint of sales and employment, respectively.

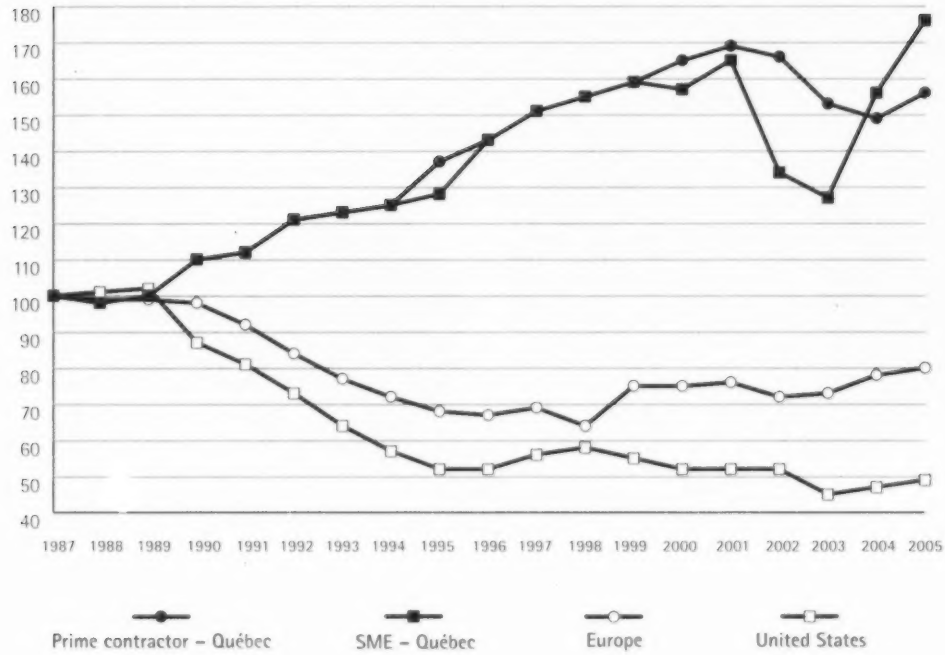


Source: MDEIE.

In recent years, the aeronautical industry has experienced difficult times. The slump that followed September 11, 2001 caused heavy losses among air carriers and affected demand for new aircraft.

However, since 2004 the industry has recovered and airlines are returning to profitability. This change of course has affected employment, especially in Québec. While the work force in the Québec industry has grown by 60% over the past 20 years, it has shrunk in Europe and the United States by 22% and 50%, respectively.

Changes in the aerospace industry work force in the United States, Europe and Québec



Work force in 2005: Québec: 39 200
United States: 623 900
Europe: 458 668

Source : MDEIE.

Québec's advantages

Québec's aeronautical industry relies on nearly 240 companies that have extensive expertise in:

- the manufacture of civilian aircraft and helicopters, aircraft engines, flight simulators, aircraft material, parts, equipment and systems;
- services such as aircraft maintenance and repair;
- R&D and innovation.

The Québec aeronautical industry has been structured to foster dynamic cooperation among all industry stakeholders:

- Aéro Montréal was established to rally all Montréal and Québec aerospace sector stakeholders around shared objectives and concerted action with a view to optimizing competitiveness, growth and the influence of the aerospace industrial cluster.

The Québec aeronautical industry offers:

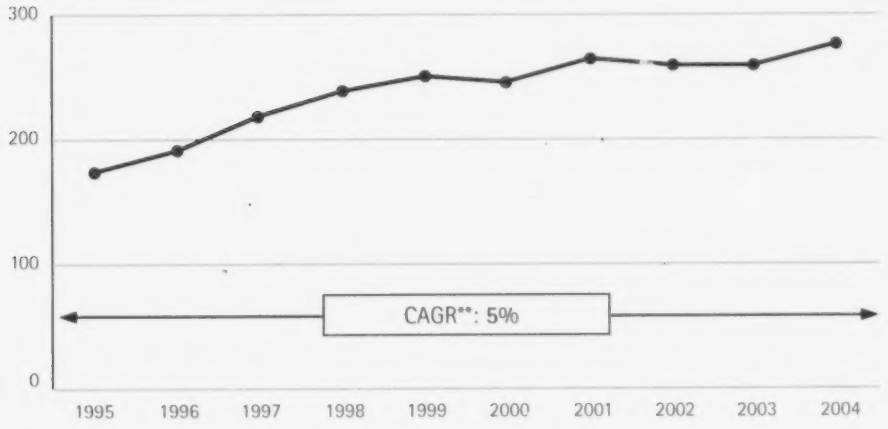
- a highly qualified, versatile work force trained in specialized technical, college and university educational institutions;
- a geographic concentration of prime contractors, equipment manufacturers and SMEs, which fosters synergy in the industry;
- proven government financial assistance, especially loans repayable through royalties on sales;
- a favourable business climate from the standpoint of education, R&D tax credits, tax benefits, the cost and reliable supply of electricity, and so on;
- a network of institutions and associations that supports the industry's development at all levels:
  - the Consortium de recherche et d'innovation en aérospatiale au Québec (CRIAQ), which coordinates collaboration between universities and the industry;
  - the Centre technologique en aérospatiale (CTA), which supports innovation and development in SMEs;
  - the Aerospace Manufacturing Technology Centre (AMTC), one of five laboratories at the National Research Council Institute for Aerospace Research (NRC Aerospace), which develops modern aerospace manufacturing methods for the aerospace industry;
  - the Comité sectoriel de la main-d'œuvre en aérospatiale (CAMAQ), which promotes broader cooperation among the stakeholders concerned through manpower planning and training in the aerospace industry;
  - the Association québécoise de l'aérospatiale (AQA), which helps to maintain relations between Québec aerospace firms, in particular between prime contractors and SMEs.

Global framework

A growing sector

Between 1995 and 2004, average annual growth in sales in the worldwide aerospace industry stood at 5%. This growth will continue over the next two decades given that demand for new aircraft, stimulated by a return to profitability among airlines and enormous market potential, is growing rapidly. It should be noted that, until now, only 4% of the world's population has travelled by airplane.

Aerospace industry sales
United States – Europe – Canada*
(in billions of US$, 1995-2004)



* 92% of worldwide activity
** Compound annual growth rate
Source: MDEIE and Boeing.

To adequately satisfy this growing demand, Québec aeronautical firms must take into account the airlines' new requirements.

Demand for aircraft depends on:

- the increase in worldwide air traffic;
- the airlines' financial health;
- worldwide economic and political conditions.

Forecast long-term demand for aircraft (2005-2025):

- average annual growth of between 3% and 4%.

The airlines are seeking:

- lower operating costs;
- a good price-quality ratio;
- a new generation of aircraft;
- compliance with environmental standards;
- ease of financing;
- a diversified range of products.

Changes are occurring in the supply chain

Two major changes are apparent in the organization of the supply chain.

Increasingly, prime contractors are tending to confine their operations to the design, final assembly and marketing of aircraft. A more limited number of big suppliers are carrying out other facets of projects. They must agree to share technical and financial risks by producing increasingly complex sub-assemblies.

Local prime contractors are concluding a growing proportion of their partnerships with foreign suppliers, in particular to reduce production costs and gain access to lucrative markets, especially in Asia. It has been noted that purchasing countries are tending to demand a growing share of local production when major contracts are awarded.

Under the circumstances, Québec SMEs and suppliers must enhance their competitiveness in order to maintain their position in the industry.

An industry that receives extensive government support

The development of new aeronautical products requires heavy investment. Furthermore, the product development cycle is especially lengthy and the funds invested can only be recovered in the long run, i.e. over a period of 10 to 15 years. Under the circumstances, banks and private financial institutions are involved to a limited extent in financing this type of project.

Governments are thus called upon to take over to offset the void left by financial markets. They support the aeronautical industry in a specific manner to enable it to develop and prosper.

This industry is especially strategic to nations given:

- its importance to defence and communications;
- the high proportion of exports, which generate wealth;
- the development of leading-edge technologies that are transferable to other industries;
- the importance of knowledge and a pool of specialized, well-paid workers.

The worldwide aeronautical industry obtains, directly or indirectly, substantial government assistance. It should be emphasized that in the United States, defence production is the key driving force for innovation in the aeronautical sector. In Europe, defence R&D, assistance to launch new products and joint project financing are means that governments are using to fund aeronautical R&D.

Government support for a strategic industry

United States

- Substantial military aircraft acquisition and R&D contracts
- A portion of public calls for tender are reserved solely for American SMEs

Europe

- Direct assistance is offered repayable through royalties
- Military contracts

Brazil

- Financial support for Embraer
- Military contracts

China, Japan and Russia

- Support for domestic regional aircraft manufacturers for the development, construction and marketing of aircraft

Public assistance for R&D

- United States*: 60%
- Europe*: 50%
- Canada and Québec: 30%

*Government financial assistance in the United States and Europe in respect of defence procurement is usually non-repayable.

Challenges to be met

The Québec aeronautical industry's undeniable advantages are enabling it to meet major challenges.

Increase competitiveness

The Québec aeronautical industry is facing growing international competition, especially from the Asian countries, which can take advantage of low labour costs. Québec must adopt measures to bolster the competitiveness of its aeronautical industry.

Broaden the pool of qualified workers

The Québec aeronautical industry relies on the outstanding quality of its workers, its principal advantage in this sector. Specialized educational institutions are now satisfying the industry's needs, but Québec must ensure that they continue to do so.

Consolidate exchanges between R&D centres and the industry

Québec is the leader in aeronautical R&D in Canada. However, despite the structuring tax credits that Québec offers, SMEs do not engage sufficiently in R&D and technological innovation. The industry would benefit, in particular, from broader reliance on institutional R&D centres.

Increase Québec content in aircraft

With the globalization of markets, Québec suppliers are facing keener international competition both in respect of local and international platforms. At the local level, a slight reduction in Québec content as a percentage of sales has been noted in these major platforms. SMEs must adopt the means necessary to ensure that they participate in big projects.

Moreover, aeronautical industry stakeholders are also facing specific challenges.

Challenges that prime contractors and equipment manufacturers are facing

The Québec industry now benefits from initiatives undertaken roughly 15 years ago facilitated by financial support from the federal and provincial governments. Mention should be made, in particular, of the big platforms of Bombardier's CRJ200 and the Bell 407 helicopter. Given that aeronautical programs have long cycles, the principal challenge facing prime contractors and equipment manufacturers is to **develop new products**.

Furthermore, given the prime contractors' more stringent demands in respect of equipment manufacturers, the latter must enhance their competitiveness to participate in their customers' supply chain. **The modernization of equipment** is thus the second daunting challenge facing this category of stakeholders.

Challenges that SMEs are facing

The main challenge that SMEs are facing is to assume new responsibilities in the industrial production line. SMEs in the aeronautical sector must become the **strategic partners** of local and international prime contractors and equipment manufacturers.

SMEs must assume broader financial burdens during the testing and development of new products. Lengthy development and production cycles mean that companies can only recover their investment after several years. This situation can be problematical in a context where SMEs sometimes have difficulty obtaining venture capital.

In addition, Québec SMEs are usually small. Over 70% of them have sales of under $5 million and only 50 or so SMEs in the industry employ more than 50 workers. Few of them are now in a position to assemble or integrate sub-assemblies for prime contractors, which explains the need to **promote their consolidation**.

The strategy

The maintenance of the leadership of prime contractors and equipment manufacturers the world over and the development of new subcontractors and suppliers are a priority for Québec.

Governments the world over are supporting their aeronautical industries in specific ways. Against this backdrop and bearing in mind the challenges that the industry is facing, the Québec and Canadian governments must support the domestic industry and implement additional measures that make it possible to maximize spinoff from major aeronautical projects in Québec.

Furthermore, it is essential to support subcontractors and suppliers by sharing with them the financial risks stemming from development projects. Their competitiveness depends on it.

It is also advisable to foster business consolidation, especially among SMEs. Together, they will be in a better position to develop complex products.

The *Québec Aeronautical Industry Development Strategy* ascribes major importance to the predominant role played by the federal government in the growth of the aeronautical industry. The Government of Canada fosters the development of new products, export assistance and financing of the sales of prime contractors, equipment manufacturers and SMEs. The Québec government will, as it has done in recent years, work jointly with the federal government.

The Québec government's objectives

- Maintain Québec's position as a world leader in the aeronautical sector by developing new products and enhancing the sector's competitiveness.
- Strengthen Québec's largely dominant position in the Canadian aeronautical industry.

Initiatives

1. Support prime contractors and equipment manufacturers

To ensure the worldwide leadership of Québec prime contractors and equipment manufacturers and foster the design and manufacture of new products in Québec, the government will:

- provide financing geared to prime contractors and equipment manufacturers, in keeping with rules governing international trade and in collaboration with the federal government:
  - › financing of R&D and product development by means of loans repayable through royalties on sales;
  - › competitive support to finance sales;
  - › financing of developmental projects in the form of share capital by the Société générale de financement (SGF).

To increase the number of equipment manufacturers operating in Québec and broaden the Québec content in prime contractors' projects, the government will:

- emphasize exploration for new equipment manufacturers in Québec:
  - › accentuate and coordinate the initiatives of public partners active in promotion and business development (MDEIE, Investissement Québec, Montréal International, Société générale de financement, and so on).

2. Support the development of Québec SMEs

To enable Québec SMEs to benefit more extensively from spinoff from major projects, it is essential to encourage:

- subcontractors to obtain resources that allow them to develop their ability to assemble and integrate complex sub-assemblies;
- the suppliers of products to elaborate more complex, diversified products;
- the suppliers of specialized services to broaden their range of services;
- SMEs engaged in complementary operations to group together to develop products.

To support SMEs, the government will:

- modify the rules governing MDEIE programs in order to:
  - make eligible product development projects that cost between $500 000 and $2 million;
  - make eligible investment projects that cost between $2 million and $5 million;
  - allow the budgetary impact of assistance granted in the case of product development projects submitted by a group of two or more enterprises and aimed at satisfying demand from a major prime contractor to reach a maximum of 30% of eligible expenditures, and 25% in the case of such projects submitted by a single firm;
  - offer maximum assistance of up to 25% in the case of projects submitted by a group of two or more enterprises and aimed at creating in such enterprises integration capacity, and 15% in the case of projects submitted by a single firm.

  It is important for equipment manufacturers to renew their production facilities and tools and they can thus benefit from the first two measures.

- support the efforts of the Association québécoise de l'aérospatiale (AQA) in its attempts to heighten awareness of the consolidation of SMEs;
- assign to the SGF a mandate to act proactively to encourage the establishment of business combinations.

To help SMEs that supply products to take advantage of business opportunities offered by local and foreign prime contractors and equipment manufacturers, the government will:

- facilitate the establishment of partnerships between SMEs and foreign firms through foreign trade missions and participation in major air shows (Le Bourget and Farnborough);
- set up, in collaboration with the AQA, a task force to:
  - establish close ties with the purchasing agents of local and foreign prime contractors and equipment manufacturers in order to ascertain their needs and changes in their purchasing policies;
  - pinpoint new foreign partners who might carry out contracts with Québec enterprises;
  - organize missions to search for partners and to develop ties between Québec SMEs and foreign prime contractors and equipment manufacturers;
  - increase the financial support offered to SMEs to enable them to expand on external markets;
  - inform SMEs about new business processes in the worldwide aeronautical industry.

3. Maintain a pool of qualified workers

To enable Québec to meet growing needs for specialized workers in the aeronautical sector, the government will:

- maintain support for educational institutions and the Comité sectoriel de la main-d'œuvre en aérospatiale (CAMAQ);
- promote in Québec firms the tax holiday for foreign researchers and the tax holiday for foreign experts;
- heighten awareness among young Quebecers of opportunities for the well-paid, diversified jobs offered by the industry.

4. Support innovation and productivity

We must broaden the synergy between big firms and research centres and educational institutions. To this end, the government will:

- participate in the long-term funding of the Consortium de recherche et d'innovation en aérospatiale au Québec (CRIAQ) in respect of university-based R&D projects;
- encourage CRIAQ to involve SMEs more extensively in its operations;
- pursue its financial support for the Centre technologique en aérospatiale (CTA) so that the latter can support the technological development of SMEs in the sector;
- maintain fiscal measures pertaining to precompetitive research;
- support the modernization and purchase of leading-edge equipment (amendment of rules governing MDEIE programs).

5. Strengthen the partnership with the federal government

The federal government plays an essential support role in the Québec aeronautical industry. The Québec government will approach the federal government to ensure that Ottawa continues to do so, more specifically by:

- financing product development;
- participating in the financing of aircraft sales;
- awarding a fair share of defence and security contracts to Québec firms when possible and by ensuring that contracts executed abroad engender the maximum direct and indirect spinoff in Québec.

The concentration in Québec of the Canadian aeronautical industry is beneficial for all Canadian industry stakeholders. This consolidation fosters the development of special business ties and international recognition of the Québec and Canadian aeronautical industry. The Québec government will ensure that the partnership with the federal government promotes the maintenance of the industry's concentration in Québec

Other intervention measures

1. Heighten public awareness in Québec and in Canada of the aeronautical industry's importance

The aeronautical industry largely underpins Québec's and Canada's economic strength. The industry's health depends on a solid partnership between it and the government. In order to heighten public awareness of this situation, the Québec government will:

- support the communication initiatives of the aerospace industrial cluster.

2. Broaden the Québec aeronautical industry's visibility in the world

In order to clearly position the Greater Montréal area as one of three leading aeronautical hubs, along with Seattle and Toulouse, and to attract new investment, the government will:

- create a brand image that establishes the Québec aeronautical industry, concentrated in Montréal, as one of three worldwide centres of excellence;
- ensure a presence by Québec government departments at key industry events.

The strategy in a nutshell

Below is a summary of the objectives and concrete means that the Québec government is proposing to support the Québec aeronautical industry. The measures centre on five key initiatives.

INITIATIVE	OBJECTIVES	MEANS
1. Support prime contractors and equipment manufacturers	Enable firms in the aeronautical sector to remain world leaders by developing and manufacturing new products in Québec	▮ Offer to major projects adapted financing that complies with the rules of international trade ▮ Adapt MDEIE programs to equipment manufacturers' needs
	Increase the number of equipment manufacturers operating in Québec and broaden the Québec content in prime contractors' projects	▮ Step up the search for new equipment manufacturers by relying on the initiatives of public partners engaged in promotion (MDEIE, IQ, Montréal International, SGF, and so on)
2. Support the development of Québec SMEs	Foster the development of subcontractors' ability to assemble complex sub-assemblies Encourage the suppliers of products to elaborate more complex, diversified products Encourage the suppliers of specialized services to broaden their range of services Encourage SMEs engaged in complementary operations to group together to consolidate their position in the industry	▮ Adapt MDEIE programs to SMEs' needs ▮ Give the SGF a mandate to encourage the establishment of business combinations
	Help SMEs that provide products to take advantage of business opportunities offered by local and foreign prime contractors and equipment manufacturers	▮ Facilitate the establishment of partnerships with foreign companies ▮ Set up, in collaboration with the AQA, a task force in order to: 1. develop close ties between SMEs and the purchasing agents of Québec and foreign prime contractors and equipment manufacturers 2. organize missions to seek partners and to develop links between Québec SMEs and foreign prime contractors, equipment manufacturers and suppliers 3. increase financial support to encourage SMEs to expand on external markets

3. Maintain a pool of qualified workers	Maintain a pool of specialized, qualified workers in sufficient numbers to satisfy the industry's growing needs	▮ Maintain support for educational institutions and CAMAQ ▮ Promote the tax holiday for foreign researchers and the tax holiday for foreign experts ▮ Implement awareness campaigns to inform young people of employment opportunities in the industry
4. Support innovation and productivity	Foster broader synergy between the industry and research centres and educational institutions	▮ Participate in the long-term funding of CRIAQ in respect of university-based R&D projects
	Broaden reliance on institutional R&D	▮ Encourage CRIAQ to involve SMEs more extensively in its operations ▮ Offer the CTA financial support to enable it to support the technological development of SMEs in the sector ▮ Maintain fiscal measures pertaining to precompetitive research
	Enhance the productivity of businesses to satisfy prime contractors' expectations	▮ Support the modernization and purchase of leading-edge equipment (amendment of rules governing MDEIE programs)
5. Strengthen the partnership with the federal government	Ensure that the federal government's participation in support for the Québec aeronautical industry is maintained	▮ Approach the federal government to ensure that it continues to participate in the financing of product development and aircraft sales
	Maintain in Québec the concentration of the Canadian aeronautical industry	▮ Approach the federal government to ensure that it awards a fair share of defence and security contracts to Québec firms when possible and ensure that contracts executed abroad engender the maximum direct and indirect spinoff in Québec

A considerable effort will be made to heighten awareness in Québec and in Canada of the industry's economic importance and to enhance the Québec aeronautical industry's visibility worldwide.

Conclusion

Québec must take advantage of the growth that the aeronautical industry is experiencing to seize the business opportunities available to it. The strength of our industry and the influence and prosperity of Québec prime contractors, equipment manufacturers and SMEs depend on it.

The *Québec Aeronautical Industry Development Strategy* is proposing means that make it possible to ensure the future of a sector that is crucial to Québec's economic development.

The government undertakes to support prime contractors, equipment manufacturers and SMEs while complying with the rules governing international trade. It will also support cooperation between stakeholders in the Québec aeronautical sector.

Moreover, the government will ensure extensive participation by the federal government in the development of our aeronautical industry, especially through its national strategy.

The industry must innovate and invest. To this end, it can rely on solid support from the Québec government, which will give it the means to do more.

It is through the contribution made by all industry stakeholders that Québec will maintain its position as a world leader in the aeronautical sector. Québec possesses the means to maintain its reputation for excellence and to contribute to the growth for future generations of a leading-edge industry.

The strategy in a nutshell

Below is a summary of the objectives and concrete means that the Québec government is proposing to support the Québec aeronautical industry. The measures centre on five key initiatives.

INITIATIVES	OBJECTIVES	MEANS
1 **Support prime contractors and equipment manufacturers**	Enable firms in the aeronautical sector to remain world leaders by developing and manufacturing new products in Québec	▮ Offer to major projects adapted financing that complies with the rules of international trade ▮ Adapt MDEIE programs to equipment manufacturers' needs
	Increase the number of equipment manufacturers operating in Québec and broaden the Québec content in prime contractors' projects	▮ Step up the search for new equipment manufacturers by relying on the initiatives of public partners engaged in promotion (MDEIE, IQ, Montréal International, SGF, and so on)
2 **Support the development of Québec SMEs**	Foster the development of subcontractors' ability to assemble complex sub-assemblies Encourage the suppliers of products to elaborate more complex, diversified products Encourage the suppliers of specialized services to broaden their range of services Encourage SMEs engaged in complementary operations to group together to consolidate their position in the industry	▮ Adapt MDEIE programs to SMEs' needs ▮ Give the SGF a mandate to encourage the establishment of business combinations
	Help SMEs that provide products to take advantage of business opportunities offered by local and foreign prime contractors and equipment manufacturers	▮ Facilitate the establishment of partnerships with foreign companies ▮ Set up, in collaboration with the AQA, a task force in order to: 1. develop close ties between SMEs and the purchasing agents of Québec and foreign prime contractors and equipment manufacturers 2. organize missions to seek partners and to develop links between Québec SMEs and foreign prime contractors, equipment manufacturers and suppliers 3. increase financial support to encourage SMEs to expand on external markets
3 **Maintain a pool of qualified workers**	Maintain a pool of specialized, qualified workers in sufficient numbers to satisfy the industry's growing needs	▮ Maintain support for educational institutions and CAMAQ ▮ Promote the tax holiday for foreign researchers and the tax holiday for foreign experts ▮ Implement awareness campaigns to inform young

		Help SMEs that provide products to take advantage of business opportunities offered by local and foreign prime contractors and equipment manufacturers	▮ Facilitate the establishment of partnerships with foreign companies ▮ Set up, in collaboration with the AQA, a task force in order to: 1. develop close ties between SMEs and the purchasing agents of Québec and foreign prime contractors and equipment manufacturers 2. organize missions to seek partners and to develop links between Québec SMEs and foreign prime contractors, equipment manufacturers and suppliers 3. increase financial support to encourage SMEs to expand on external markets
3	**Maintain a pool of qualified workers**	Maintain a pool of specialized, qualified workers in sufficient numbers to satisfy the industry's growing needs	▮ Maintain support for educational institutions and CAMAQ ▮ Promote the tax holiday for foreign researchers and the tax holiday for foreign experts ▮ Implement awareness campaigns to inform young people of employment opportunities in the industry
4	**Support innovation and productivity**	Foster broader synergy between the industry and research centres and educational institutions	▮ Participate in the long-term funding of CRIAQ in respect of university-based R&D projects
		Broaden reliance on institutional R&D	▮ Encourage CRIAQ to involve SMEs more extensively in its operations ▮ Offer the CTA financial support to enable it to support the technological development of SMEs in the sector ▮ Maintain fiscal measures pertaining to precompetitive research
		Enhance the productivity of businesses to satisfy prime contractors' expectations	▮ Support the modernization and purchase of leading-edge equipment (amendment of rules governing MDEIE programs)
5	**Strengthen the partnership with the federal government**	Ensure that the federal government's participation in support for the Québec aeronautical industry is maintained	▮ Approach the federal government to ensure that it continues to participate in the financing of product development and aircraft sales
		Maintain in Québec the concentration of the Canadian aeronautical industry	▮ Approach the federal government to ensure that it awards a fair share of defence and security contracts to Québec firms when possible and ensure that contracts executed abroad engender the maximum direct and indirect spinoff in Québec

A considerable effort will be made to heighten awareness in Québec and in Canada of the industry's economic importance and to enhance the Québec aeronautical industry's visibility worldwide.

Développement économique, Innovation et Exportation
Québec

Développement
économique, Innovation
et Exportation
Québec